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09/855,018	05/15/2001	David Frank	9351-60	8005

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EXAMINER

TSANG FOSTER, SUSY N

ART UNIT PAPER NUMBER

1745

DATE MAILED: 11/19/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/855,018

Applicant(s)

FRANK ET AL.

Examiner

Susy N Tsang-Foster

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1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/2/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10. 6) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

1. This Office Action is responsive to the amendment filed on 9/2/2003. Claims 1, 3-6, and 9 have been amended. Claims 10-14 have been added. Claims 1-14 are pending and are rejected for the reasons given below. This Office Action is made non-final as newly discovered art is applied against the claims for reasons not necessitated by applicant's amendment.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, an extension extending on the rear side of the flow field plate for each of the apertures as recited in claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

The drawings show extensions (e.g. 210 in Figure 5 and 230 in Figure 9) around the apertures that are part of the front side of the flow field plate where the flow channels are located. For the purposes of prosecution, this limitation is claim 1 is interpreted as "for each of the apertures, at least one slot is associated with the aperture, the at least one slot extending through the flow field plate from the back side to the front side thereof; for each of the apertures, an extension is located between the aperture and the at least one slot such that gas flows from the rear side of the flow field plate along the extension and through the at least one slot to the reactant gas flow channels".

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A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first extension on the rear side of the first flow field plate and a second extension on the rear side of the second flow field plate as recited in claim 9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

The drawings show extensions (e.g. 210 in Figure 5 and 230 in Figure 9) around the apertures that are part of the front side of the flow field plate where the flow channels are located. Furthermore, the extensions are already in communication with the reactant gas flow channels because they are both part of the front surface of the flow field plate as shown in the Figures.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the extensions extending on the rear side of the flow field plate for each of the apertures as recited in claim 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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The drawings show extensions (e.g. 210 in Figure 5 and 230 in Figure 9) around the apertures that are part of the front side of the flow field plate where the flow channels are located.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the a first extension on the rear side thereof and a second extension on the rear side thereof as recited in claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the an extension extending on the rear side of the flow field plate for each of the apertures as recited in claim 14 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

7. The disclosure is objected to because of the following informalities: On page 7, the statement that “for each of the apertures, an aperture extension extending on the rear side of the flow field plate” does not appear to be illustrated in the drawings for reasons given above.

On page 8, paragraph 29, the statement that “on the rear side thereof, a first aperture extension” does not appear to be illustrated in the drawings for reasons given above.

On page 8, paragraph 30, the statement that “on the rear side thereof, a second aperture extension” does not appear to be illustrated in the drawings for reasons given above.

Appropriate correction is required.

Claim Objections

8. Claim 5 is objected to because of the following informalities:

In claim 5, line 1, “disclaimed” should be “claimed”.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 1-8, 10, and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

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relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claims 1, 10, and 14, the limitation “the flow field plate having a front side, for defining chambers with another complementary flow field plate and a membrane electrode assembly” does not appear to be in the original disclosure. Furthermore, it is unclear how one side (the front side) of the flow field plate can define more than one chamber.

Claims depending from claims rejected under 35 USC 112, first paragraph are also rejected for the same.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In general, the claims are very unclear.

In claims 1, 10, and 14, the limitation “the flow field plate having a front side, for defining chambers with another complementary flow field plate and a membrane electrode assembly” is indefinite because it is unclear how one side (the front side) of the flow field plate can define more than one chamber.

Similarly, in claims 1 and 10, the limitation “at least two apertures for a reactant gas for supply to said chambers” is indefinite because it is unclear what these chambers are since one surface of the flow field plate cannot define more than one chamber.

In claim 1, the limitation “at least one slot extending through the flow field plate from the back side to the front side thereof, to provide communication between the corresponding extension and the reactant gas flow channels” is indefinite because it is unclear how slots can provide communication between the corresponding extension and the reactant gas flow channels.

In claim 9, the limitation “a first extension, providing communication between the first apertures thereof and said first slots” is indefinite because it is unclear what this communication is. Similarly in claim 9, the limitation “a second extension, providing communication between the second apertures thereof and said second slots” is indefinite.

In claim 10, the limitation “for each aperture, at least one slot extending through the flow field plate from the back side to the front side thereof, to provide communication between the corresponding extension and the reactant gas flow channels” is indefinite because it is unclear what this communication is.

In claim 11, the limitation “for each of the first apertures thereof, on the rear side thereof, a first extension, providing communication between the first apertures thereof and said first slots” is indefinite because it is unclear what this communication is. Similarly, in claim 11, the limitation “on the rear side thereof, a second extension, providing communication between the second apertures thereof and said second slots” is indefinite.

Similarly, in claim 14, the limitation “at least two apertures for a reactant gas for supply to one of said chambers” is indefinite because it is unclear what these chambers are since one surface of the flow field plate cannot define more than one chamber.

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In claim 14, the limitation "wherein each of the plurality of slot provides communication between the corresponding extension and reactant gas flow channels" is indefinite because it is unclear what this communication is.

Claims depending from claims rejected under 35 USC 112, second paragraph are also rejected for the same.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. As best understood, claims 1-14 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Marvin et al. (US 6,500,580 B1).

See Figures 1-5; col. 2, lines 5-20; col. 3, lines 35-58; col. 4, lines 8-45; col. 5, lines 19-27 of the reference.

15. As best understood, claims 1-14 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Matlock et al. (US 6,261,711 B1).

See Figures 1-3, and 5; col. 3, lines 10-39; col. 4, lines 64-67; col. 5, lines 4-63; col. 7, lines 15-27 of the reference.

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16. As best understood, claims 1-14 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Yosida et al. (US 6,566,001 B2).

See Figures 1-5; col. 3, lines 33-60; col. 4, lines 1-46 of the reference.

Conclusion

17. Any inquiry concerning this communication or earlier communications should be directed to examiner Susy Tsang-Foster, Ph.D. whose telephone number is (703) 305-0588. The examiner can normally be reached on Monday through Friday from 9:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at (703) 308-2383. The phone number for the organization where this application or proceeding is assigned is (703) 305-5900.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

st/



Susy Tsang-Foster
Primary Examiner
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